WEST Search History

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DATE: Monday, November 15, 2004

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☐	L8	L7 and (pluronic$ or poloxamer)	39
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☐	L6	emulsion adj10 (freezedr or lyophili$)	604
☐	L5	l3 and (sucrose or lactose)	1407
☐	L4	l3 and cryopreserv$	15
☐	L3	emulsion same (freezedr or lyophili$)	2685
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☐	L1	emulsion same (freez$ or lyophili$)	6488

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L7: Entry 72 of 214 File: USPT Mar 27, 2001

DOCUMENT-IDENTIFIER: US 6207185 B1

**** See image for Certificate of Correction ****

TITLE: Method for inducing a systemic immune response to an HIV antigen

Detailed Description Text (28):

To stabilize the liposomal antigen, the emulsion is lyophilized. Lyophilized liposomal antigen can be stored at room temperature for one half to three years without degradation of the liposomes or antigen.

Detailed Description Text (29):

Lyophilization may be accomplished by any method known in the art. Such procedures are disclosed, for example, in U.S. Pat. No. 4,880,836 to Janoff, et al., the disclosure of which is incorporated herein by reference. Lyophilization procedures preferably include the addition of a drying protectant to the liposome suspension. The drying protectant stabilizes the liposome suspension. The drying protectant stabilizes the liposomes so that the size and content are maintained during the drying procedure and through rehydration. Preferred drying agents are saccharide sugars including dextrose, sucrose, maltose, manose, galactose, raffinose, trehalose lactose, and triose sugars which are preferably added in amounts of about 5% to about 20% and preferably about 10% by weight of the aqueous phase of the liposomal suspension. Dextrose, sucrose and maltose are presently preferred. Manitol may be used in conjunction with any of the saccharides. Additional preservatives such as BHT or EDTA, urea, albumin, dextran or polyvinyl alcohol may also be used.

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L7: Entry 96 of 214 File: USPT Jan 18, 2000

DOCUMENT-IDENTIFIER: US 6015576 A
TITLE: Method for inducing a systemic immune response to an antigen

Detailed Description Text (27):
To stabilize the liposomal antigen, the emulsion is lyophilized. Lyophilized liposomal antigen can be stored at room temperature for one half to three years without degradation of the liposomes or antigen.

Detailed Description Text (28):
Lyophilization may be accomplished by any method known in the art. Such procedures are disclosed, for example, in U.S. Pat. No. 4,880,836 to Janoff, et al., which is incorporated herein by reference. Lyophilization procedures preferably include the addition of a drying protectant to the liposome suspension. The drying protectant stabilizes the liposome suspension. The drying protectant stabilizes the liposomes so that the size and content are maintained during the drying procedure and through rehydration. Preferred drying agents are saccharide sugars including dextrose, sucrose, maltose, manose, galactose, raffinose, trehalose lactose, and triose sugars which are preferably added in amounts of about 5% to about 20% and preferably about 10% by weight of the aqueous phase of the liposomal suspension. Dextrose, sucrose and maltose are presently preferred. Manitol may be used in conjunction with any of the saccharides. Additional preservatives such as BHT or EDTA, urea, albumin, dextran or polyvinyl alcohol may also be used.

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L7: Entry 100 of 214 File: USPT Nov 30, 1999

DOCUMENT-IDENTIFIER: US 5993846 A
TITLE: Bioadhesive emulsion preparations for enhanced drug delivery

Detailed Description Text (48):
Dehydration may be performed by standard methods, such as drying under reduced pressure; when the emulsion is frozen prior to dehydration, this low pressure evaporation is known as lyophilization. Freezing may be performed conveniently in a dry ice-acetone or ethyl alcohol bath. The pressure reduction may be achieved conveniently with a mechanical vacuum pump, usually fitted with a liquid nitrogen cold trap to protect the pump from contamination. Pressures in the low millitorr range, e.g., 10-50 millitorr, are routinely achievable, but higher or lower pressures are sufficient.

Detailed Description Text (49):
A cryoprotectant or anticoalescent compound may be added to the emulsion prior to dehydration to inhibit flocculation and coalescence upon rehydration. The cryoprotectant may be of any type known in the art, including sugars and polysaccharides such as sucrose or trehalose, and nonnatural polymers such as polyvinylpyrrolidone. Cryoprotectants are usually present at less than 25%, commonly 10%, more commonly 5%, 4% (w/v) or less in the emulsion before lyophilization.

Detailed Description Text (161):
Fragmin was incorporated into submicron emulsions (SME) with or without inclusion of a bioadhesive polymer. Fragmin was purchased from Kabivitrum AB as a solution of 5000 IU/0.3 ml. The LMWH SME was mixed with carboxymethylcellulose (CMC, medium weight) to obtain a stable bioadhesive emulsion. These emulsions were stored in lyophilized form and reconstituted prior to use. The reconstituted product had a mean droplet size of 40 nm.+-.SD.

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L8: Entry 30 of 39 File: USPT May 12, 1998

DOCUMENT-IDENTIFIER: US 5750142 A
TITLE: Dry compositions for preparing submicron emulsions

Abstract Text (1):
The present invention relates to dry, stable compositions which can be reconstituted to form pharmaceutical or cosmetic emulsions, and to methods for making such compositions. An emulsion is formed from about 0.2 to 25 weight percent of a first component of an oil, about 0.1 to 5 weight percent of a second component of an emulsifier, about 0.25 to 25 weight percent of a cryoprotectant of an amino compound, such as one or more amino acids, peptides or protein hydrolysates, and an aqueous component, wherein the amino compound is present in an amount that is equal to or greater than that of the first component. Optionally, a co-emulsifier, a suspension agent, a preservative, an antioxidant and a drug can be added to these emulsions. Thereafter, the emulsion is lyophilized to form dry compositions that have from about 40 to about 90 weight percent of the amino compound; from about 0.1 to about 20 weight percent of the emulsifier; and from about 0.2 to about 40 weight percent of the oily component. By combining the dry composition with an appropriate quantity of an aqueous liquid, the composition is reformed as an oil-in-water emulsion.

Brief Summary Text (13):
The invention also relates to a method of making a lyophilized composition which comprises lyophilizing one of the emulsions described above, as well as to the dry lyophilized compositions which are made by such method.

Brief Summary Text (14):
Furthermore, the invention relates to the method of making an emulsion by adding a suitable aqueous liquid to one of these lyophilized compositions. The aqueous liquid for reconstituting these emulsions may be Water for Injection, U.S.P.; 0.9% Sodium Chloride Injection, U.S.P.; or 5% Dextrose Injection, U.S.P. Generally, less aqueous liquid is needed to make the emulsion than that which was removed when making the lyophilized composition, although the dry compositions can be dissolved to any desired concentration and osmolarity. Also, the aqueous liquid may be added to the lyophilized composition with mixing to form the emulsion.

Brief Summary Text (29):
The oil component may be a vegetable oil, a synthetic oil, a mineral oil or a medium chain triglyceride (MCT) oil, i.e. a triglyceride oil in which the carbohydrate chain has 8-12 carbons, or a combination of two or three of such oils. Although MCT oil can be considered as a component of vegetable oil, it is separately identified herein because of its particular utility as a preferred oil for use in the present emulsions. In addition, MCT oil is available commercially. Examples of such MCT oils include TCR (trade name of Societe Industrielle des Oleagineaux, France for a mixture of triglycerides wherein about 95% of the fatty acid chains have 8 or 10 carbons) and MIGLYOL 812 (trade name of Dynamit Nobel, Sweden for a mixed triester of glycerine and of caprylic and capric acids). Examples of vegetable oils include soybean oil, cotton seed oil, olive oil, sesame oil and castor oil. The mineral oils may be natural hydrocarbons or their synthetic analogs. Oily fatty acids, such as oleic acid and linoleic acid, fatty alcohols, such as oleyl alcohol, and fatty esters, such as sorbitan monooleate and sucrose

mono- di- or tri-palmitate, can be used as the oil component, although these are not as preferred as the other oils mentioned above. Other lipids which can be used in the compositions of this invention include synthetic and semi-synthetic mono-, di- and/or triglycerides, triglycerides prepared by solvent or thermal fractionation of natural, synthetic or semisynthetic triglycerides, and triglycerides prepared by interesterification and/or directed or random rearrangement. The oil component is generally present at a concentration of from about 0.2 to 25 weight percent, preferably about 0.4 to 10 weight percent, and more preferably about 0.6 to 8 weight percent.

Brief Summary Text (32):
The co-emulsifiers can be used to enhance the formation of the emulsion. This component may be a surface active agent or surfactant, preferably those which are non-ionic, and one skilled in the art can conduct routine tests to select specific compounds for any particular emulsion. Generally, the surfactant is a non-ionic alkylene oxide condensate of an organic compound which contains one or more hydroxyl groups. For example, ethoxylated and/or propoxylated alcohol or ester compounds or mixtures thereof are commonly available and are well known to those skilled in the art. Suitable surfactants include, but are not limited to, TYLOXAPOL; POLOXAMER 4070; POLOXAMER 188; POLYOXYL 40 Stearate; POLYSORBATE 80, and POLYSORBATE 20, as well as various compounds sold under the trade name TWEEN (ICI American Inc., Wilmington, Del., U.S.A.), PLURONIC F-68 (trade name of BASF, Ludwigshafen, Germany for a copolymer of polyoxyethylene and polyoxypropylene). Preferred surfactants also include polyoxyethylated oils or poloxamines. The TYLOXAPOL and TWEEN surfactants are most preferred because they are FDA approved for human use. The co-emulsifier is present in an amount of about 0.1 to 5 weight percent, preferably about 0.2 to 4 weight percent and more preferably about 0.25 to 2.5 weight percent.

Brief Summary Text (62):
These emulsions are lyophilized to provide a fine essentially dry material, which can be stored without deterioration for a prolonged period of time, and which can be reconstituted to give a stable oil-in-water emulsion. Moreover, the lyophilized emulsion can be stored for a long term at ambient room temperature and which may be reconstituted to a fine submicron emulsion, which is exceedingly stable. After reconstitution, these emulsions may be used for oral, parenteral or topical applications, including ocular, transdermal, mucosal and for vaccinations or blood substitution, as well as for other pharmaceutical and cosmetic uses.

Brief Summary Text (63):
The submicron emulsion is generally composed of metabolized, synthetic or vegetable oil, preferably MCT oil (Medium Chain Triglycerides) emulsified with phospholipids and a synthetic co-emulsifier such as a non-ionic surfactant that has a polyoxyethylated moiety, preferably polyoxethylated oils, poloxamers or poloxamines. The submicron emulsion is adjusted for pH and isotonicity as needed. The submicron emulsion is protected by the amine group compound which, as noted, above, is preferably an amino acid or mixtures of amino acids. These emulsions can also include biocompatible polymers such as PVP, PVA or PEG as protective colloids and suspension or bulking agents.

Brief Summary Text (64):
Typical submicron emulsion formulations may be prepared with various oily phase concentrations, preferably from about 0.1 to 25 weight percent, but dilution has to be done to reduce oil concentration to below about 5%, preferably to below about 2%, before lyophilization, depending on mean droplet size required after reconstitution and provided that a protective agent, e.g., an amino compound in a concentration preferably above about 2% is added. Polyoxyethylated fatty acids (PLURONICs) can be used as co-emulsifiers and are apparently useful in combination with the amino compounds. The submicron emulsion may also contain antioxidants and preservatives.

Detailed Description Text (3):
A submicron emulsion was prepared by mixing 4.25% MCT oil, 0.75% lecithin, 0.02% .alpha.-tocopherol, 2% PLURONIC F-68, 1.5% deoxycholic acid Na.sup.+ salt and water up to 100%. The crude emulsion was then homogenized at 85.degree. C. for 5 minutes by a Polytron homogenizer, followed by a Gaulin homogenizer for 5 min. at 750 Atm., to obtain a submicron emulsion. The emulsion was diluted with water to yield an oil concentration of 0.5% prior to lyophilization and glycine was added to achieve a glycine concentration of 6%.

Detailed Description Text (15):
A co-emulsifier, EMULPHOR EL-980, which is a nonionic surfactant, was added in a final concentration of 2% before the lyophilization step of each Example, but the PLURONIC F-68 and deoxycholic acid Na.sup.+ salt were omitted.

Detailed Description Text (26):
The emulsion was diluted to yield 1% oil prior to lyophilization and ovalbumin hydrolysate was added to achieve an ovalbumin hydrolysate ("OAH") concentration of 2%. The total volume was 2 ml., and a 5 ml. serum bottle was used.

Detailed Description Text (32):
Example 48 was similar to Example 39, except that the emulsion contained a different surfactant, 2% Tyloxapol, instead of 2% TWEEN-80. Example 49 was a similar preparation to that of Example 36, except that the emulsion contains 2% PLURONIC F-68 and 1% sodium deoxycholate instead of 2% TWEEN-80. Alanine glycine dipeptide (ALA-GLY) was added prior to the lyophilization, at a concentration of 6%, instead of OAH. The oil concentration was 0.5% after dilution. Example 50 was similar to Example 49, except that the glycine-D-asparagine (GLY-D-ASN) 6% was added instead of ALA-GLY.

CLAIMS:

29. A lyophilized composition made by formulating the emulsion of claim 16, diluting the emulsion to reduce the percentage by weight of the oil content thereof, and lyophilizing the reduced oil content emulsion to form a lyophilized composition.

30. A lyophilized composition made by formulating the emulsion of claim 27, diluting the emulsion to reduce the percentage by weight of the oil content thereof, and lyophilizing the reduced oil content emulsion to form a lyophilized composition.

31. A lyophilized composition made by formulating the emulsion of claim 28, diluting the emulsion to reduce the percentage by weight of the oil content thereof, and lyophilizing the reduced oil content emulsion to form a lyophilized composition.

39. A lyophilized composition comprising:

from about 0.2 to about 30 weight percent of an oil;

from about 50 to about 75 weight percent of a cryoprotectant, wherein said cryoprotectant comprises an amino compound selected from the group consisting of a straight amino acid, a branched amino acid, a nontoxic salt of a straight amino acid, a nontoxic salt of a branched amino acid, an ester of a straight amino acid, an ester of a branched amino acid, a peptide, and a protein hydrolysate and being present in an amount that is equal to or greater than the amount of said oil;

from about 0.1 to about 10 weight percent of an emulsifier; and

from about 0.1 to about 10 weight percent of a co-emulsifier;

wherein the composition is formed by lyophilizing an emulsion of the components after dilution of the emulsion to reduce that oil content thereof, with the components of the lyophilized composition being present in combination such that, when combined with an appropriate quantity of an aqueous liquid, the composition forms an oil-in-water emulsion.

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L8: Entry 35 of 39 File: USPT Oct 7, 1997

DOCUMENT-IDENTIFIER: US 5674468 A
** See image for Certificate of Correction **
TITLE: Contrast agents comprising gas-containing or gas-generating polymer microparticles or microballoons

Brief Summary Text (75):
The contrast agents of the invention may incorporate additives such as emulsifying agents and/or coating agents, for example to modify their stability, dispersibility, aggregation tendencies, biological properties etc., or to modify the flexibility and/or polarity of the membrane. Representative additives include fatty acids (e.g. straight chain saturated or unsaturated fatty acids, for example containing 10-20 carbon atoms) and carbohydrate and triglyceride esters thereof; proteins such as gelatin or, more preferably, human serum albumin; phospholipids, e.g. lecithin; polysaccharides such as starch, modified (e.g. lipophilised) starch or gum arabic; and surface active polymers such as polyvinyl alcohols, polyethylene glycols and block copolymers (including extended polymers), for example poly (oxyethylene)-poly(oxypropylene)-poly(oxyethylene) block copolymers such as Pluronics.

Brief Summary Text (84):
One useful method corresponds to the interfacial deposition technique described in the above-mentioned EP-A-0458745 and comprises dissolving or suspending the polymeric wall-forming material in a water-immiscible organic solvent (for example an aliphatic or cycloaliphatic hydrocarbon or perfluorocarbon, e.g. containing up to 10 carbon atoms, or an appropriate ether, ester or other lipophilic solvent), emulsifying (e.g. by high shear mixing) the resulting solution or suspension in an aqueous phase (preferably containing a surfactant to stabilise the resulting oil in water emulsion), and subsequently removing the organic phase (e.g. by evaporation or lyophilisation, preferably under an atmosphere of the gas which is desired to be incorporated) whereby the polymer forms a membrane at the interface between the aqueous and organic phases.

Brief Summary Text (85):
Representative solvents include heptane, toluene, xylene, camphene (e.g. (-)-camphene), limonene and naphthalene. Solvents such as camphene are of advantage in that they are biotolerated so that it is not necessary to remove all solvent residues from the contrast agent prior to administration; such high-melting solvents will also rapidly solidify when the emulsion is frozen prior to lyophilisation and may thus enhance the structural integrity of the microparticulate contrast agent thereby obtained.

Brief Summary Text (89):
Alternatively the polymer may be dissolved in an appropriate organic solvent (e.g. methylene dichloride, dimethyl sulphoxide, tetrahydrofuran or dimethylformamide) and then dispersed (e.g. using a high speed stirrer) in an aqueous phase (preferably containing a polymeric material such as polyvinyl alcohol or a poloxamer) so as to precipitate particulate polymeric material which may be collected and lyophilised to yield porous microparticulate polymer in accordance with the invention. Such techniques are described in the above-mentioned EP-A-0458079. Variants for the preparation of microparticles include injecting the

organic polymer solution, preferably together with a physiologically acceptable stabiliser such as hydroxypropyl cellulose, into liquid nitrogen. Alternatively the polymer may be dissolved in an appropriate organic solvent (e.g. methylene chloride or tetrahydrofuran), followed by spray drying of the solution, or of an oil in water or water in oil emulsion of the organic polymer solution with an aqueous phase.

Detailed Description Text (353):
ah) Polymer from Pluronic F68 and benzoyloxymethyl chloroformate

Detailed Description Text (354):
Pluronic F68 (9.889 g, 1.191 mmol) was dissolved in toluene (dry, 30 ml). After heating to 45.degree. C., triethylamine (0.70 ml) was added under constant stirring. Benzyloxymethyl chloroformate (Example 1 ae(ii), 1.072 g, 5.00 mmol) dissolved in toluene (4 ml) was added dropwise, followed by further triethylamine (0.25 ml) with toluene (dry, 2.5 ml). The reaction mixture was held at 45.degree. C. for 8 hours, then at 55.degree. C. for 16 hours, then cooled and filtered. The solvent was removed under reduced pressure, and the recovered compound was dissolved in toluene and reprecipitated from n-heptane (500 ml) with stirring, giving a white powder (8.45 g). IR (KBr): 1722 (C.dbd.O)cm.sup.-1.

Detailed Description Text (392):
6.204 g of a 4.1% wt/wt solution of polymer from Example 2b above in a mixture of xylene/trichloroethylene (90:10) was added to 25 ml of a 0.5% wt/vol solution of Pluronic.RTM. F68 in water. The mixture was vigorously shaken (by hand) for one minute and freeze dried for 16 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (394):
6.204 g of a 4.1% wt/wt solution of polymer from Example 2b above in a mixture of xylene/trichloroethylene (90:10) was added to 25 ml of a 0.5% wt/vol solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax T25 mixer at speed 20500 rpm for 40 seconds and freeze dried for 16 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (396):
12.408 g of a 4.1% wt/wt solution of polymer from Example 2b above in a mixture of xylene/trichloroethylene (90:10) was added to 50 ml of a 0.5% wt/vol solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax T25 mixer at speed 24000 rpm for 40 seconds and freeze dried for 16 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (398):
The polymer from methylene bis(12- hydroxydodecanoate) from Example 2c above and adipoyl chloride (0.40 g) in a mixture of xylene/trichloroethylene ((10:1), 4 ml) was added to 20 ml of a 0.5% wt/vol solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax T25 mixer at speed 20500 rpm for 30 seconds and freeze dried (0.5 mmHg) for 16 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (400):
A solution of oligomer from ethylene di(chloromethyl carbonate) and di-potassium terephthalate from Example 2u above in chloroform (22.5 ml of a 4% wt/vol solution made by dissolving the polymer under careful heating) was added to 30 ml of a 0.5% wt/vol solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax T25 mixer at speed 24000 rpm for 40 seconds and freeze dried for 16 hours. Light microscopy indicated formation of micro-particles.

Detailed Description Text (402):
A solution of polymer made from ethyl methacryloyloxymethyl carbonate from Example

2j above in chloroform (9 ml of a 10% wt/vol solution) was added to 30 ml of a 0.5% wt/vol solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax T25 mixer at speed 24000 rpm for 40 seconds and freeze dried for 16 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (404):
The polymer from methyl 1-methacryloyloxyethyl carbonate (0.462 g) from Example 2o above in toluene (5 ml) was added to 20 ml of a 1.0% wt/vol solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax T25 mixer at speed 20500 rpm for 30 seconds and freeze dried (0.05 mmHg) for 16 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (406):
The polymer from methacryloyloxymethyl benzoate (0.45 g) from Example 2r above in a mixture of toluene/trichloroethylene ((10:1), 2 ml) was added to 20 ml of a 1.0% wt/vol solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax T25 mixer at speed 20500 rpm for 30 seconds and freeze dried (0.05mmHg) for 4 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (412):
Oligomer from ethylene di(chloromethyl carbonate) and di-potassium terephthalate (1.0 g) from Example 2u above was dissolved in 19.0 g of liquid naphthalene at 100.degree. C. The naphthalene solution was emulsified at 90.degree. C. into 200 ml of a water solution of polyvinyl alcohol (8.0 g, Mw=13000-23000) containing Pluronic.RTM. F68 (0.2 g). The emulsifying head was an Ultra Turax T25. Then the emulsion was diluted under agitation with 500 ml of the same aqueous phase at 15.degree. C. and mixed for 8 minutes. The naphthalene droplets solidified into beads which were filtered through a 50 .mu.m filter to separate particles greater than 50 .mu.m. The suspension was centrifuged under 1000.times. g and the beads were washed with water and recentrifuged. This step was repeated twice. The beads were resuspended in 100 ml of water with 0.8 g lactose and the suspension was frozen into a block at -40.degree. C. The block was thereafter freeze dried for 16 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (422):
4 ml of a 2.52% wt/vol solution of the polymer (Example 2f) in a mixture of xylene/trichloroethylene (90:10) was added to 10 ml of a 0.5 wt % solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax.RTM. T25 mixer at speed 20500 rpm for 1 minute and 30 seconds, and freeze dried for 15 hours, giving a white powder. Light microscopy indicated formation of microparticles.

Detailed Description Text (424):
22.5 ml of a 4% wt/vol solution of the polymer (Example 2aa) in chloroform was added to 30 ml of a 0.5 wt % solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax.RTM. T25 mixer at speed 24000 rpm for 40 seconds, and freeze dried for 16 hours, giving a yellow, rubbery solid. Light microscopy indicated formation of microparticles.

Detailed Description Text (426):
8 ml of a 2.55% wt/vol solution of the polymer (Example 2t) in xylene/trichloroethylene (90:10) was added to 20 ml of a 0.5 wt % solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax.RTM. T25 mixer at speed 20500 rpm for 1 minute and 30 seconds, and freeze dried for 16 hours, giving a white powder. Light microscopy indicated formation of microparticles.

Detailed Description Text (428):
8 ml of a 2.48% wt/vol solution of the polymer (Example 2ab) in xylene/trichloroethylene (90:10) was added to 20 ml of a 0.5 wt % solution of

Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax.RTM. T25 mixer at speed 20500 rpm for 1 minute and 30 seconds, and freeze dried for 16 hours, giving a white powder. Light microscopy indicated formation of microparticles.

Detailed Description Text (430):
4 ml of a 2.54% wt/vol solution of the polymer (Example 2s) in chloroform was added to 10 ml of a 0.5 wt % solution of Pluronic.RTM. F68 in water. The mixture was mixed with an Ultra Turax.RTM. T25 mixer at speed 24000 rpm for 50 seconds, and freeze dried for 16 hours, giving a white powder. Light microscopy indicated formation of microparticles.

Detailed Description Text (436):
The polymer from butyl methacryloyloxymethyl carbonate (Example 2k, 0.45 g) was dissolved in toluene (9 ml). Water (30 ml) containing 0.3 g Pluronic.RTM. F68 was added and an emulsion was made using an Ystral.RTM. homogenizer at 2000 rpm for 30 seconds. The emulsion was freeze dried for 19 hours and light microscopy indicated formation of microparticles.

Detailed Description Text (442):
The polymer made from methyl methacryloyloxymethyl carbonate (Example 2o, 0.9 g) was dissolved in toluene (9 ml). A mixture of sodium dodecylsulphate (0.3 g) and Pluronic.RTM. F68 (0.025 g) in water (35 ml) was added and the solution was homogenized using an Ystral.RTM. homogenizer at 20000 rpm for 30 seconds. The emulsion was freeze dried for 16 hours and light microscopy indicated formation of microparticles.

Detailed Description Text (444):
The polymer made from methylene bis (12-hydroxydodecanoate) and 3,6,9-trioxaunedecanedioic acid dichloride (Example 2af , 0.9 g) was dissolved in toluene (9 ml). Water (30 ml) containing Pluronic.RTM. F68 (0.3 g) was added and the mixture homogenized for 30 seconds using an Ystral.RTM. homogenizer at 20000 rpm. The emulsion was freeze dried for 48 hours. Light microscopy indicated formation of microparticles.

Detailed Description Text (447):
ad) Pluronic.RTM. F68 coated particles obtained from spray drying of polymer made from methylene bis(16-hydroxyhexadecanoate) and adipoyl chloride.

Detailed Description Text (448):
1.71 g of a mixture of the polymer from Example 2b above and Pluronic.RTM. F68 (50:50) was dissolved in 100 ml dichloromethane. The solution was spray dried in a Buchi 190 mini spray drier. The inlet temperature was set to 50.degree. C., and the outlet temperature was measured as 42.degree. C. Light microscopy indicated formation of microparticles.

Detailed Description Text (451):
af) Pluronic.RTM. F68 coated particles from polymer from methyl methacryloyloxymethyl carbonate

Detailed Description Paragraph Table (6):
TABLE 6 _____ Concentration [% Coating material (wt/wt)] _____ Tween .RTM. 60 0.1, 0.5 Sodium Hexadecanoate 0.1, 0.5 Cetyl trimethyl ammonium 0.1, 0.5 chloride Kollidon .RTM. 30 (Polyvinyl 0.2, 1.0 pyrrolidone) Cremophor .RTM. RH40 0.2, 1.0 Pluronic .RTM. F68 1.0 _____